## APPENDIX V

## AIRCRAFT LOAD PLANNING AND DOCUMENTATION

## A. RESPONSIBILITIES

- 1. The mobility force will:
  - a. Assist the deploying unit in developing load plans, including aircraft limitation changes. However, it is the responsibility of the deploying unit to develop load plans.
  - b. Ensure documentation and manifesting of all personnel, cargo, and equipment are accomplished by the deploying unit, In Accordance With (IAW) provisions of this regulation.
  - c. Ensure a cargo and/or passenger manifest diskette accompanies each aircraft load.
- 2. Deployment planners and/or the deploying unit will be responsible for full aircraft utilization.
- 3. Aircraft Load Plans. Load plans are required upon request by Air Mobility Command's Tanker Airlift Control Center (TACC). To facilitate mission planning, deploying/redeploying units should be prepared to create load plans. Shortly after being tasked, TACC will match validated movement requirements with the aircraft. If additional information is required to adequately plan the mission, TACC may request units generate and submit load plans within 48 hours of notification to ensure adequacy of proposed aircraft and mission plan. Submission of load plans is IAW AMC load planners and unit mission parameters. Current technology limitations require the unit to submit a facsimile or electronic mail of the load plan to the Air Mobility Command (AMC) for review. Requirement changes may require submission of new load plans. (Chairman Joint Chiefs of Staff Manual 3122.02B, Joint Operation Planning and Execution System [JOPES] Volume III, Crisis Action Time-Phased Force and Deployment Data Development and Deployment Execution, Appendix C, Enclosure H, Paragraph 3.)

### **B. AIRCRAFT LOAD PLANNING**

- 1. Load planning guidance by aircraft type is contained in the following AMC publications. Compliance with these publications is mandatory. These publications are available at <a href="https://www.amc.af.mil/pubs/amci/24series.htm">https://www.amc.af.mil/pubs/amci/24series.htm</a>.
  - a. Air Mobility Command Pamphlet (AMCPAM) 24-2 Volume (V)1, <u>Civil Reserve Air Fleet Load Planning Guide</u>.
  - b. AMCPAM 24-2 V2, Civil Reserve Air Fleet Load Planning Guide Boeing 747.
  - c. AMCPAM 24-2 V3, <u>Civil Reserve Air Fleet Load Planning Guide McDonnell Douglas DC-10</u>.
  - d. AMCPAM 24-2 V4, Civil Reserve Air Fleet Load Planning Guide Lockheed L-1011.
  - e. AMCPAM 24-2 V5, <u>Civil Reserve Air Fleet Load Planning Guide McDonnell Douglas DC-8</u>.

- f. AMCPAM 24-2 V6, Civil Reserve Air Fleet Load Planning Guide Boeing 767.
- g. AMCPAM 24-2 V7, Civil Reserve Air Fleet Load Planning Guide Boeing 777.
- h. AMCPAM 24-2 V8, <u>Civil Reserve Air Fleet Load Planning Guide McDonnell Douglas</u> MD 11.
- i. AMCPAM 24-2 V9, Civil Reserve Air Fleet Load Planning Guide Airbus A310.
- j. AMCPAM 24-2 V10, <u>Civil Reserve Air Fleet Load Planning Guide Boeing 757</u>.

## C. AIRCRAFT UTILIZATION

When planning for full aircraft utilization, the planner will apply the following criteria:

- 1. Aircraft will be configured and loaded to maximum capacity using the Allowable Cabin Load (ACL), passenger limits, and aircraft load specifications found in Figures V-1 through V-22. For further assistance, contact an affiliated Air Mobility Control Unit (AMCU) or deployed Tanker Airlift Control Element.
- 2. Accurate ACL information is subject to variables such as type of mission, destination, distance, weather, operational priorities, airfield conditions, and individual aircraft characteristics.
- 3. The configuration of vehicles and equipment to be air transported or air dropped must allow for emergency access from the front to the rear of the aircraft and safe loading and off-loading.
- 4. In aircraft loading, axle loads, wheel loads, tire footprint loads, and general floor loads, as determined from the plan view of the equipment, must conform to aircraft fuselage zone and compartment limitations. Detailed allowable load limits can be found in the aircraft Technical Order Dash 9. Units having extremely heavy or outsize equipment will emphasize this during joint planning conferences and seek technical assistance prior to load planning. Palletized and platform limitations, along with aircraft roller load limits, must not be exceeded.
- 5. Use spread loading as a technique, whereby like capabilities of a given unit are distributed throughout the entire air flow versus on a single aircraft. For example, if a deploying unit's entire petroleum, oils, and lubricants capability is on one aircraft and the aircraft is lost due to weather or combat, the capability of the deploying unit would be severely limited.
- 6. Each item will be planned for placement aboard the aircraft so it can be rapidly loaded or off-loaded. In such cases, the most efficient use of aircraft will be planned with the following exceptions:
  - a. Minimize floor-loaded cargo for aircraft carrying rolling stock.
  - b. Vehicles will normally be loaded on the aircraft facing the ramp. Also, trailers and towed equipment will be moved on the same aircraft as their prime mover.
  - c. Palletized cargo will be planned for placement aft of all rolling stock and passengers (aircraft weight and balance permitting).

### D. PARACHUTE ELEMENT

Units assigned to parachute elements will:

- 1. Prepare aircraft load plans that reflect the tactical plan and comply with references of the United States Army's Field Manual 10-500 series or other Service regulations.
- 2. Use the provisions of load planning shown herein and in Appendix O for the preparation of equipment and supplies for airdrop, except when those instructions conflict with requirements of the tactical plan.
- 3. Provide the necessary auxiliary equipment for airdrop of vehicles and equipment, such as platforms, parachutes, webbing straps, and energy-dissipating material to absorb impact shock and vibration.
- 4. Rig loads according to the technical orders and Service regulations.

#### E. AIR-LANDED ELEMENT

Units assigned to air-landed elements will:

- 1. Prepare aircraft load plans.
- 2. Plan for use of C-141, C-130, or Civil Reserve Air Fleet as basic aircraft for movement of all equipment and general cargo that can be transported by those aircraft.
- 3. Plan for use of C-5 and C-17 aircraft for outsize equipment, plus other equipment and general cargo, to make full use of floor space and ACL.
- 4. Assign a minimum of two passengers to function as cargo/equipment custodian in case a portion of the load is downloaded en route to the final destination.
- 5. Ensure each self-propelled vehicle has at least one qualified operator (not required on civil aircraft cargo missions).
- 6. Use the passenger, baggage weights, and aircraft planning factors found in Figures V-1 through V-22. (Normally, duffel bags will be palletized or loaded aboard the aircraft as secondary loads in vehicles.) Load planners will allocate cargo compartment floor space to load rucksacks aboard the aircraft.
- 7. Determine planning weight and dimensions for all vehicles and equipment to be loaded.
- 8. Normally, plan to load trailers and semi-trailers in the same aircraft as their prime movers. The Naval Construction Force has trailers whose overall length is 470 inches or greater, making the match to prime movers on the same aircraft impossible. A prime mover will need to be available at the embarkation/debarkation field to on/off-load the trailer. A prime mover will also need to be available at the onload airfield when re-deploying to load the trailer.
- 9. Ensure equipment items are complete in type, quantity, and configuration; and the weight, dimensions, and number of packages of supplies are correct.

- 10. Ensure the number of personnel indicated in the planned loads accurately describes the unit's readiness for movement and is the same as the movement data reported to the force commander or major command.
- 11. After submission of movement data and planning of aircraft loads, ensure any replacement of equipment items is reflected in a corrected movement data report.

### F. SUBSTITUTE AIRCRAFT LOADING PROCESS

This loading situation requires unit equipment to be aligned by type item and positioned according to priority in the line. Passengers are separated from the equipment and processed as required on a seat-available basis (except drivers, assistant drivers, and cargo custodians). This procedure is used when there is an unexpected change in aircraft or aircraft type, and time constraints dictate a rapid, efficient completion of the move. For example, an operation is progressing on schedule with C-17s when an unexpected event (such as earthquake relief) takes place and the C-17s are used immediately in support of that event. A change of aircraft (on an as-available basis) is needed to complete the assigned mission. For that loading, the following procedures will apply:

- 1. All cargo is arranged according to M-series (Military Design) or type items.
- 2. Passengers will be held in a holding area with a predetermined number on hand at all times. Passengers will have ready access of baggage and personal equipment and be prepared to depart.
- 3. Loads will be determined and selected upon notification of estimated time of arrival, type, and number of aircraft arriving.
- 4. Load plans will be prepared listing serial number, bumper number, or Transportation Control Number (TCN) of the items to be airlifted (according to a transported force directed priority) on the cargo and passenger manifests (load plan). A transported unit representative must assist the load planner.
- 5. After the load plan is complete and all cargo and equipment for the chalk is present, cargo will be aligned in loading sequence by serial number. The Joint Inspection (JI) will then be conducted using a DD Form 2133, Joint Airlift Inspection Record (See Figure O-1).
- 6. Once the cargo is load planned, the number of seats available is determined. The passenger holding area will be notified and passengers will be manifested and segregated by load.
- 7. Cargo goes to the aircraft with cargo and passenger manifests, JI Form, and DD Form 1387-2, Special Handling Data/Certification, Figure V-24 and/or Shipper's Declaration for Dangerous Goods, (See Figure J-1), under the supervision of the mobility force representative. The DD Form 1387-2 may be used to identify cargo requiring special handling only; it cannot be used as a certification document of hazardous materials. (Reference Air Force Interservice Manual [AFMAN] 24-204(I), Technical Manual [TM] 38-250, Marine Corps Order [MCO] P4030.19H, Naval Supply [NAVSUP] Pub 505, and Defense Logistics Agency Instruction [DLAI] 4145.3, Preparing Hazardous Materials for Military Air Shipments [http://www.afmc-pub.wpafb.af.mil/HQ-AFMC/LG/LSO/lop/hazmat/])
- 8. The passenger holding area is notified when to escort passengers to the aircraft. This is an efficient method of processing both cargo and passengers when there is uncertainty as to the type of aircraft to be used.

## G. TYPE LOADING

Identical type loads simplify the planning process and make the tasks of load planning easier. The type load method is the most common and widely accepted method of air movement planning. This method is often used in planning unit moves. Consider the following when type loading:

- 1. Load configuration.
- 2. Load condition upon arrival.
- 3. Rapid unloading.
- 4. Aircraft unloading.
- 5. Security requirement en route.
- 6. Operational requirements.

## H. PREPARATION AND USE OF DD FORM 2130 SERIES

- 1. These forms are designed for use in load planning. Except for the aircraft diagram, the forms are the same. The front of the form serves as a load-planning sheet. Sidewall seats are shown on the C-130, C-141, C-17, and KC-135 aircraft diagrams and will be marked through with an "X" when seats are to be filled with passengers.
- 2. The DD Form 2130 series includes:
  - a. DD Form 2130-1, C-5A/B Load Plan, Figure V-2.
  - b. DD Form 2130-2, C-130 Load Plan, Figure V-4.
  - c. DD Form 2130-3, C-141B Load Plan, Figure V-6.
  - d. DD Form 2130-4, C-160 Transall Load Plan, Figure V-7.
  - e. DD Form 2130-5, DC 10-10/30CF Load Plan, Figure V-8.
  - f. DD Form 2130-6, KC-l0A Load Plan, 17 Pallet Configuration, Figure V-10.
  - g. DD Form 2130-7, KC-l0A Load Plan, 23 Pallet Configuration, Figure V-11.
  - h. DD Form 2130-8, DC 8-50 Series F/CF Load Plan, Figure V-12.
  - i. DD Form 2130-9, DC 8-61/71-63/73F/CF Load Plan, Figure V-13.
  - j. DD Form 2130-10, DC 8-62CF Load Plan, Figure V-14.
  - k. DD Form 2130-11, B707-300C Load Plan, Figure V-15.
  - 1. DD Form 2130-12, B747-100F/200C/200F Load Plan, Figure V-16.
  - m. DD Form 2130-13, C-17 Load Plan, Figure Figure V-18.
  - n. DD Form 2130-14, KC-135 Load Plan, Figure V-20.
  - o. DD Form 2130C, Aircraft Load Plan Continuation, Figure V-21.

- 3. Preparation instructions for the completion of DD Form 2130 Series are as follows:
  - Block 1: UNIT BEING AIRLIFTED. Name or number of unit being airlifted.
  - Block 2: UNIT IDENTIFICATION CODE. Six-character, alpha numeric-unique code assigned to unit being airlifted. Deploying units may also use Unit Line Number (ULN) in this block.
  - Block 3: TYPE MOVEMENT PLAN. Enter the operation or exercise name. If Special Assignment Airlift Mission (SAAM), enter the SAAM number. If contingency, enter plan number and whether inter-theater or intra-theater airlift. Enter "CLASSIFIED" if there is any doubt about associating the type of movement with detailed load information on the unit, i.e., if Plan Identification Number is listed.

**Caution**: The association of an exercise name, SAAM sequence number, contingency name, or operation plan number with the other information on this form may cause this form to become classified up to TOP SECRET.

- Block 4: MOVEMENT DATE. Enter the date of airlift (DDMMMYY). **Note**: All airlift times are specified in Greenwich Mean Time (Zulu time zone).
- Block 5: UNIT AIRCRAFT LOAD NUMBER. The number identifying the specific load and the total loads to be airlifted for a particular unit, e.g., 5 of 47.
- Block 6: MISSION NUMBER. Assigned mission number. (Normally completed by mobility force personnel.)
- Block 7: AIRCRAFT SERIAL NUMBER. Last five digits of the aircraft tail number. (Normally completed by mobility force personnel.)
- Block 8: CONFIGURATION. The proper aircraft configuration that satisfies mission requirements. Basic aircraft configuration tables are found in Air Force Instruction (AFI) 11-2C-130, Volume 3, C-130 Operations Procedures, AFI 11-2C-17 Volume 3, C-17 Operations Procedures, AFI 11-2C-5 Volume 3, C-5 Operations Procedures, AFI 11-2KC-135 Volume 3, C-KC-135 Operations Procedures, AFI 11-2KC-10V3, Chapter 25, KC-10 Operations Procedures, and AFI 11-2C-141 Volume 3, C-141 Operations Procedures. (Normally completed by mobility force personnel.)
- Block 9: DEPARTURE AIRFIELD. Actual geographical name of departure airfield. If departure is classified, enter "CLASSIFIED".
- Block 10: DESTINATION AIRFIELD. Actual geographical name of the arrival airfield. If destination is classified, enter "CLASSIFIED".
- Block 11: ACTUAL LOADOUT. The aircraft diagram schematic scale is 1/4 inch = three feet or scale 1:144 cm. Actual position of cargo being airlifted will be shown on the diagram using Department of Defense (DOD) approved cargo load planning templates. Contact any of the AMCUs listed in Chapter 303, Paragraph B.2.b.(l)(g) for further guidance. Vehicles will be backed into C-130/C-141B/C-17 for ease of offload. If it is necessary to drive a vehicle into the aircraft, explain in the remarks section, Block 11d, of the load plan.
  - Column 11(a): LOAD SEQUENCE. The order items will be loaded aboard aircraft (completed by deploying unit load planners). This order may be changed when circumstances dictate. General sequencing rule is from front to rear of aircraft. Passengers do not receive a sequence number.

Column 11(b): ITEM MODEL AND NOMENCLATURE/ DESCRIPTION. A text description of the item, e.g., M818 5-ton tractor or CH-53E helicopter. A common or generic description may be used when shipping classified items.

Column 11(c): TRANSPORTATION CONTROL NUMBER (TCN) or VEHICLE PACKAGE NUMBER/SERIAL NUMBER/INCREMENT NUMBER. Enter 17 digit TCN, e.g., MSEABACR200110XXX, bumper number, license number, or serial number, e.g., HQ 16 or 76B2050.

Column 11(d): REMARKS (Special Handling, Shoring).

- (1) REMARKS CODE (from Column h). Enter any pertinent information about shoring requirements, reduction in height requirements, or hazardous cargo.
- (2) OTHER. Enter information not covered in remarks code pertaining to item, e.g., some helicopters may require special approach shoring or use of code 4 in column 11(d) which would require an "arrow" in the "other remarks" column showing position and orientation of item inside the aircraft).

Column 11(e): DIMENSIONAL DATA. Enter the length, width, and height of all rolling stock and equipment to be transported on the aircraft. Do not use data plate dimensions. Physically measure the item to ensure it fits in the desired aircraft envelope.

Column 11(f): PLANNED LOAD DATA. Enter planned length, width, height (in inches), and gross weight (in pounds [lbs]) based on the most current available Unit Movement Data. Also record fuselage station (position in aircraft) and simplified moment. Simplified moment permits the load planner to reduce the amount of numerical digits accumulated during the mathematical process associated with airlift planning. As airlift cargo capability increase, moments accrued during calculation of aircraft load Center of Balance (CB) also increase. To simplify a given moment, the load planner moves the decimal point a given number of spaces to the left depending upon which type aircraft is being used. Use following simplifications for aircraft listed below:

C-130E/H, KC-135, C-160	1,000 (3 digits left)
C-141B, KC-10A, DC-10-10/30CF	10,000 (4 digits left)
C-17, B707-300C, DC8-62CF	10,000 (4 digits left)
DC8-50F/CF, DC8-61/71-63/73FCC	10,000 (4 digits left)
C-5A/B, B747100F/200C/200F/400F	100,000 (5 digits left)

**Example**: A moment of 7305560 on a C-130 aircraft would be simplified to 7306, and a moment of 20354000 on a C-141 aircraft would be simplified to 2035. As the example depicts, the simplified moment method can be related to standard rounding-off rules.

Column 11(g): ACTUAL LOAD DATA. Enter weight obtained by physically weighing item on scales in current calibration. Also record fuselage station (position in aircraft), simplified moment, and recompute load CB. If actual CB changes more than 10 inches from the planned CB position, ensure aircraft limitations are not exceeded.

Column 11(h): REMARKS CODES. Choose codes and enter in column 11(d).

Block 12: PASSENGERS SEATS PLANNING DATA. Enter number of total seats used in number seats section (In this example, 12 is entered).

12. PASSENGER SEATS PLANNING DATA											
NUMBER AVG. WEIGHT TOTAL PLANNED											
SEATS	(Pounds Each)	WT.									
12	210	2,520									

Also enter average weight used per individual for planning purposes and the total weight of the planned passenger load. This is for use during the planning phase of the movement. To estimate passenger weights, see Figure V-22. The load planner or unit movement officer will furnish the actual number of passengers and the total passenger weight.

Block 13: TOTAL WEIGHT/MOMENT FROM BACK. Enter total planned load weight and moments from reverse side in Block (f), "Gross Weight and Moment" columns. Enter total actual load weight and moments from reverse side in Block (g), "Gross Weight and Moment" columns. Record total weight and moment from reverse to Blocks 11(f) and 11(g).

Block 14: TOTALS. Compute the sum of figures in Gross Weight and Moment columns for both Blocks 11(f) and 11(g), and Block 13. To obtain load CB station, divide total moment by total gross weight. Example:  $6107 \div 68190 = 896$ .

Block 15(a): LOAD PLANNER. Enter date load plan certified, name, grade, organization, and signature of individual responsible for planning or initiating the cargo load plan. Planning officials must be qualified load planners or graduates of the AMC Affiliation Airlift Planners Course, the United States Army Air Deployment Planning Course; Ft Eustis, VA, United States Marine Corps Expeditionary Warfare Training Group, Pacific, Air Movement Planning Course (K-8A-3558) Naval Air Base, Coronado, CA; 101st Airborne Division Strategic Deployment School Ft Campbell, KY or 82d Airborne Division Air Movement Operation School, Ft Bragg, NC.

Block 15(b): ACTUAL LOAD PLAN VALIDATOR. Enter date load plan validated, name, grade, organization, and signature of individual validating plan in actual load plan block. Actual plan certification will not be accomplished until the actual load plan is completely filled out and verified. The load plan validator must be an authorized representative of the mobility force or the aircrew loadmaster. For airdrop loads, graduates of the Fort Lee Parachute Riggers Course may certify the load plan.

- 4. Distribution. A minimum of seven copies is required for movement, one copy to each of the following:
  - a. Departure airfield mobility force.
  - b. Departure Airfield Operations.
  - c. Loading team chief.
  - d. Aircraft loadmaster or Boom Operator.
  - e. Arrival airfield mobility force.
  - f. Planeload/troop commander.
  - g. Arrival Airfield Operations.

**Note**: Additional copies may be required for customs and foreign clearances on missions operating outside the United States.

C-5 PLANNING DATA											
Maximum Takeoff Weight:	769,000 lbs										
Normal Operating Weight:	374,000 lbs										
Peacetime Planning ACL*:	150,000 lbs										
Wartime Planning ACL*:	175,000 lbs										
CARGO COMPARTMENT:											
Length - 1736 inches Width - 228 inches*	* Height - 162 inches **										
CARGO AREA:											
From Fuselage Station 511-1976 (main cargo floor), from State 1976-2131 (aircraft aft ramp). NOTE: 463L pallets loaded aft ramps) will have a 14-inch access aisle which will expertical stacking line of the cargo.	l in pallet positions 1, 2, 35, and 36 (forward and										
VEHICLE LOADING MAXIMUM WEIGHTS:											
Aircraft Ramps											
Station 395-517 and Station 1971-2131:	3,600 lbs in any 20-inch length.										
Station 511-724 and 1884-1971:	20,000 lbs in any 40-inch length.										
Station 724-1884****:	36,000 lbs in any 40-inch area.										
PASSENGER CARGO LOADING:											
Maximum allowable using HCU-7/E and HCU-15/C nets.											
Pallet positions 3 thru 34	10,355 lbs ***										
Pallet positions 1, 2, 35, and 36 (ramps	7,500 lbs each ***										
Height of pallet positions 1 thru 34	96 inches ****										
Height of pallet positions 35 and 36	70 inches **/***										
PASSENGER LOADING:											
Airline seats (permanently installed):	73 passengers/troops										
Airline seats (additional seat kit):	267 passengers/troops										
Web passenger seats:	Not Available										
Paratroops:	73 paratroops										
Litter patients (plus medical crew):	Not Available										
Full sidewall seats only:	Not Available										
NOTE: When 20 or more troops are transported aboar	d the C-5, a baggage pallet(s) will be used.										
MAXIMUM ON OVER-WATER FLIGHTS:	329 passengers										

- 1. \* Maximum payload is computed without regard to cargo density. It is limited only by aircraft structural limitations or critical leg fuel (3500 Nautical Miles (NM)) and is shown primarily for information. It includes the weight of any passengers carried. Do not use unless cargo density is known to be high and physical characteristics of cargo would permit full use of compartment space. Flight route segments less than critical leg distances may allow for more or less ACL depending on wind factors. If tankers can be provided with aerial refueling qualified aircrews, the C-5 can airlift maximum payload (145.5 Short Tons) over any critical leg.
- 2. \*\* Cargo must be six inches from sides and top of aircraft. Aft Ramp cargo height is restricted to 70 inches.
- 3. \*\*\* Includes weight of cargo, pallet and nets.
- 4. \*\*\*\* Maximum height allowed.
- 5. \*\*\*\*\* Side-by-side or multiple wheeled vehicles axles loaded between F.S. 1458 and F.S. 1518 are limited to a combined maximum weight of 25,000 pounds. Tracked type vehicles are excluded from this restriction.

Figure V-1. C-5 Planning Data

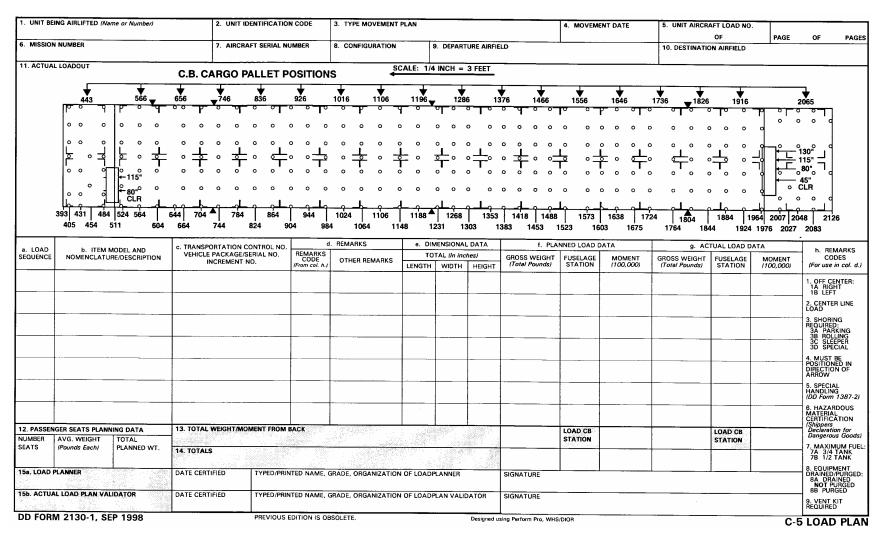


Figure V-2. DD Form 2130-1, C-5 A/B Load Plan (w/Cargo Pallet Positions)

C-130 PLANNING DATA											
Maximum Takeoff	155,000 lbs										
Normal Operating V	Weight:	88,000 lbs									
Peacetime Planning	ACL*:	25,000 lbs									
Wartime Planning A	ACL*:	38,800 lbs									
CARGO COMPARTMENT:											
Length - 624 inches (612" usable)	Width - 123 inches**	* Height - 108 inches**									
CARGO AREA:											
From Fuselage Station 257-742 (main ca	argo floor) and from Sta	ation 742-869 (aircraft ramp).									
VEHICLE LOADING:											
35-inch tread ways extend entire length	of cargo compartment (	FS 257 to 867)									
MAXIMUM AXLE WEIGHTS:											
Station 257-337 and Station	682-737:	6,000 lbs per individual axle.									
Station 337-682:	13,000 lbs per individual axle.										
Aircraft Ramp (Station 737-8	3,500/2,500 lbs (see note)										
NOTE: Single axle of 3,500 lbs (provided it is any case, maximum allowable weight on the ra											
PALLETIZED CARGO LOADING: Maximur	n allowable using 463L	pallets and nets.									
Pallet positions 1-4:		10,355 lbs ***									
Pallet positions 5:		8,500 lbs ***									
Pallet positions 6 (ramp):		4664 lbs ***									
Height of pallet positions 1-5:		96 inches ****									
Height of pallet position 6:		76 inches ****									
PASSENGER LOADING (-):											
Airline seats plus one comfor	rt pallet:	40 passengers									
Web passenger seats:		90 passengers									
Paratroops:		64 paratroops									
Litter patients (plus medical	crew):	72 litters									
Full sidewall seats only:		41 passengers									
MAXIMUM ON OVER-WATER FLIGHTS:		74 passengers									

Figure V-3. C-130 Planning Data

- 1. \* Maximum payload is computed without regard to cargo density. It is limited only by structural limitations or critical leg fuel and is shown primarily for information. It includes weight of any passengers carried. It should not be used unless cargo density is known to be high and physical characteristics of cargo would permit full use of the compartment space. Flight route segments less than critical leg distances may allow for more or less ACL depending on wind factors.
- 2. \*\* Maximum heights are as follows. 102 inches for large, single items of cargo placed on pallets. 100 inches for palletized, netted cargo connected. 100 inches for single, palletized, netted cargo weighing no more than 8,000 lbs. 96 inches for single, palletized, netted cargo weighing no more than 10,000 lbs. All heights are measured from the surface of the pallet. Maximum height for cargo located forward of fuselage station 381 or positioned on the airplane ramp is restricted to 76 inches. In terms of width, cargo must be 14 inches from the sides of the airplane, without passengers. Without dual rails installed, the cargo compartment floor is limited to 105 5/8 inches wide. Maximum height for other-than-palletized cargo located on the aircraft is restricted to 80 inches. **Note**: Standard 20-foot ocean containers are 102 inches high and may be moved with pre-planning and coordination.
- 3. \*\*\* Includes weight of cargo, pallet, and nets.
- 4. \*\*\*\* Maximum height allowed. An 18-inch aisle must be provided on the left-hand side of pallets positioned in pallet position six. A minimum of 6-inch aisle must be provided on the left-hand side of pallets positioned in the wheel well area (pallet positions three and four).
- 5. (+) Maximum weight on aircraft ramp is 5,000 lbs, including weight of aircraft dual rails and rollers.
- 6. (-) Any passenger load requires a minimum of one loadmaster in cargo compartment; two if more than 40 passengers are carried.
- 7. (-) Width of cargo affects use of sidewall seats. If vehicle exceeds 76 inches wide, seats will be available only on one side of aircraft if wide cargo can be loaded off-center to right side of aircraft. Cargo widths over 96-inches, no passenger seats are available beside the cargo.
- 8. (-) Passengers will NOT occupy seats less than 30 inches from strapped/netted cargo.
- 9. (-) Aisleways: Pallet Positions three and four (Wheel Well). A minimum 6-inch safety aisle must be provided on the left-hand side of pallets positioned in the wheel well area. Pallet Position six (Ramp). To allow for the use of the toilet facility, an 18 X 18-inch cut-out must be provided on the forward, left corner of pallets loaded on the ramp. Also, a 6-inch safety aisle must be provided aft of the toilet facility. NOTE: Certain aircraft models have the toilet facility located on the right side of aircraft. If possible, coordinate with mobility force personnel to determine which model will be used. When this information cannot be obtained, recommend an 18-inch aisle along entire length of ramp pallet. This will enable pallet to be rotated to meet the requirement for the toilet facility and safety aisle.

#### RESTRAINT.

- 1. Pallets are restrained to aircraft by detent locks. If pallet is properly built and nets installed correctly, no additional restraint is required.
- 2. Tie-down rings which have a 10,000 lb. rated capacity are installed in 20-inch grid pattern on the cargo floor.
- 3. 25,000 lb. tie-down rings are not available when dual rail system is installed. (Exception: Two, 25,000 lb. tie-down rings are located just forward of the ramp hinge.)
- 4. Tie-down rings located on aircraft ramp and cargo compartment walls have a rated strength of 5,000 lb.
- 5. Tie-down rings mounted on the aircraft dual rails at 10,000 lb.
- 6. Aircraft carry a specified complement of tie-down equipment, adequate for most loads.

Figure V-3. C-130 Planning Data (Cont'd)

1. UNIT BEI	NG AIRLIFTED (No	ame or Number)	2. UNIT I	DENTIFICATION CO	DE 3	. TYPE MOVEMENT	PLAN				4. MOVEM	ENT DATE	5. UNIT AIRCR	AFT LOAD NO.	<del></del>		
											İ			OF	PAGE	OF	PAGES
6. MISSION	NUMBER		7. AIRCR	AFT SERIAL NUMBE	ER 8	CONFIGURATION	\$	9. DEPARTURE AIRFIE		LD			10. DESTINATION	ON AIRFIELD			
11. ACTUAL	LOADOUT					SC	CALE: 1/4	INCH = :	3 FEET								
						<b>-</b>	-										
			C-130 A/E	<b>1</b> 4	C.B	. CARGO PALLET POSITION	s				CODED DEST	RICTIONS/LEGEND					
			247	32 7	, T	512 1 602	7	7 [	803			B TIEDOWN					
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						<u> </u>		4	• • • •			/ DOUBLE SEATS					
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			245 277 257	1   317   357   397   297   337   377   41			37 642 677 69 7 657 69	700 736  742   717 767 7 737	787 827 8	1 47 869		ETREADWAY					
1			T			REMARKS	I a DIA	MENSIONAL	DATA								
a. LOAD SEQUENCE		ITEM MODEL AND C. TRANSPORTATION CONTROL NO VEHICLE PACKAGE/SERIAL NO.		SERIAL NO. RE	AL NO. REMARKS TOTAL (			TAL (In inch					g. ACTUAL LOAD DATA  GROSS WEIGHT FUSELAGE MOMENT			h. REN	
			INCREMENT NO.		CODE OTHER REMARKS		LENGTH WIDTH HEIGHT		(Total Pounds)	STATION	(1,000)	(Total Pounds)	STATION	(1,000)	(For use i		
					i											1. OFF CE 1A RIGH 1B LEFT	NTER:
				-												2. CENTER	
																2 CHODIN	ic.
																REQUIRED 3A PAR 3B ROLL 3C SLEE 3D SPEC	KING
																3C SLEE	PER
																4. MUST E POSITION DIRECTION	
																DIRECTION	N OF
																5. SPECIA HANDLING	L 3
		<del></del>	+				-									(DD Form	1387-2)
																MATERIAL CERTIFICA	<b>ATION</b>
		13. TOTAL WEIGHT/MC	OMENT FROM BACK		regisery of a single fill Parts		7 4584			LOAD CB			LOAD CB		(Shippers Declaration Dangerou	on for	
	AVG. WEIGHT (Pounds Each)	PLANNED WT.	14. TOTALS								STATION			STATION		7. MAXIM	IUM FUEL:
			17. 10 IALS													7A 3/4 7B 1/2	
15a. LOAD P	LANNER		DATE CERTIFIED	TYPED/PRINTED	NAME, GRA	ADE, ORGANIZATION	OF LOADE	LANNER	.10% <u>121.</u>	SIGNATURE			l	L		8. EQUIPN DRAINED/	PURGED:
15h ACTUA	L LOAD PLAN VA	UDATOR	DATE CERTICIES	TWO-D CORN.												8A DRA NOT PL 8B PUR	IRGED GED
150. AUTUA	L LVAD FLAN VA	CIUM I UK	DATE CERTIFIED	1 YPED/PRINTED	NAME, GRA	ADE, ORGANIZATION	OF LOADP	LAN VALID	ATOR	SIGNATURE						9. VENT K	
DD FORM	/I 2130-2, SI	EP 1998	1	PREVIOUS EDITION	ON IS OBSC	DLETE.	-		Designed u	sing Perform Pro, WHS	S/DIOR			C 12	O A/B/E/I		

Figure V-4. DD Form 2130-2, C-130 A/B/E/H Load Plan (w/Cargo Pallet Positions)

C 141D DI ANNIN	CDATA					
C-141B PLANNIN						
Maximum Takeoff Weight:	323,000 lbs					
Normal Operating Weight:	150,000 lbs					
Peacetime Planning ACL*:	46,000 lbs*					
Wartime Planning ACL*:	50,600 lbs					
CARGO COMPARTMENT*						
Length - 1253 inches Width - 123 inches**	Height - 109 inches**					
CARGO AREA:						
From Fuselage Station 322-1412 (main cargo floor) and from Sta	tion 1412-1543 (aircraft ramp).					
VEHICLE LOADING:						
34-inch treadways extend entire length of cargo compartment (FS 318	3 to 1543). Weight applied to area between treadways is					
restrictive, refer to additional charts found in TO IC-141B-9, "Loadin	g Instructions."					
MAXIMUM WEIGHTS:						
Station 318-678 and Station 998-1412:	10,000 lb axles					
Station 678-998:	20,000 lb axles					
Aircraft Ramp (Station 1412-1543):	7,500 lb axles					
Maximum individual wheel weight:	5,000 lbs****					
PALLETIZED CARGO LOADING: Maximum allowable using 4631	pallets and nets.					
Pallet positions 1 thru 12:	10,355 lbs					
Pallet positions 13 (ramp):	7,500 lbs***					
Height of pallet positions 2 thru 12:	96 inches					
Height of pallet positions 1 and 13:	76 inches					
PASSENGER LOADING:						
Airline seats plus one comfort pallet:	143 passengers					
Web passenger seats:	200 passengers****					
Paratroops:	155 paratroops					
Litter patients (plus medical crew):	103 litters					
Full sidewall seats only:	98 passengers					
MAXIMUM ON OVER-WATER FLIGHTS	153 passengers					

NOTE: This number may change depending on size of the aircrew. The number of life rafts limits the total passengers and crew on board.

- 1. \* Maximum payload is computed without regard to cargo density, is limited by aircraft structural limitations or critical leg fuel (3500NM), and is shown for information. It includes passenger weight. Do not use unless cargo density is known to be high and physical characteristics of cargo space would permit full use of compartment space. Flight route segments less than critical leg length may allow for more or less ACL depending on wind factors. If tankers can be provided with aerial refueling qualified aircrews, C-141 can airlift maximum payload (34.3 Short Tons) over any critical leg.
- 2. \*\* Cargo must be six inches from sides and top of aircraft. Ramp height is restricted to 80 inches other than palletized.
- 3. \*\*\* Includes weight of cargo, pallet and nets.
- 4. \*\*\*\* Does not apply to wide-based tires, size 14x17.5, and larger.
- 5. \*\*\*\* Requires center-line assets and configurations be prearranged.
- 6. No cargo is loaded in first 30 inches of cargo compartment.
- 7. Any passenger load requires a minimum of one loadmaster in cargo compartment; two if more than 40 passengers are carried.
- 8. Width of cargo affects use of sidewall seats. If vehicle exceeds 80 inches wide, seats will be available only on one side of aircraft if the wide cargo can be loaded off-center to the right side of aircraft.
- 9. Passengers will NOT occupy a seat closer than 30 inches from strapped or netted cargo. Cargo widths greater than 96 inches, no passenger seats are available beside the cargo.
- 10. Height requirements under passenger cargo loading and palletized cargo loading is the maximum height allowed.

Figure V-5. C-141B Planning Data

1. UNIT BEI	NG AIRLIFTED (N	2. UNIT	IDENTIFICATION	TIFICATION CODE 3. TYPE MOVEMENT PLAN 4. MOVEMENT DA								5. UNIT AIRCR	AFT LOAD NO					
														OF	PAGE	OF PAGE		
6. MISSION NUMBER 7. AIRCRAFT SERIAL I					MBER	8. CONFIGURATION	15	9. DEPARTUR	AIRFIE	LD			10. DESTINATIO	ON AIRFIELD				
11. ACTUAL	LOADOUT	20.00	<u> </u>			S	CALE: 1/4	INCH = 3 I	EET		<del></del>							
						-								COL	DED RESTRICTI	ONS / LEGEND		
															0 10,000 LB T			
	C-1418				C.B.	CARGO PALLET POSITIONS			10					• • •	25,000 LBT			
		381 471	561 651 18128138148158168178188	741	831	921 10			91			1472	RBL 61.5	• • •	•			
	# # <del>0</del> 0	\$ \$ 5 \$ 5 \$ 5	6 6 6 6 6 6	0 0 0 0 0	0 0 0 0	0 0 0 0 0 0 0 0	ō	5 5 5 5 5	5 5	0 0 0 0 0 0	•	-	RBL 50.0	Δ ∇	VENT			
		<u> </u>	<u> </u>	00000	<u> </u>		<u> </u>	<u> </u>	<del>1                                    </del>	<u> </u>			RBL 16.0	¦s <sub>I</sub> D		OUBLE SEATS		
	2 2 2 P	7	3 <u>0</u> 3 <u>0</u> 3 <u>0</u> 3 <u>0</u>	9 9 9 9	<u> </u>	<u> </u>	<u> </u>	<u> </u>	9 9	9 9 9 9 9 0	• • •	-	LBL 16.0		NO FLOOR	LOADED CARGO		
	9 9 <u>9 9</u>	P 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 9 9 9 9 9 9 9 8108118128138148158168	9 9 9 9 9 17818819820821822	2 2 2 2 2 2823824825826	278 28 29 30 31 32 33 33	83583683783			우 모 유 오 유 O O 846 847 848 849 8	8 8 8	-	LBL 50.0		NO AXELL	DADS		
	298 338 5 298 338 358	378 418 458 498 398 438 478	538   578   618   656 518   558   598   638	8 698 738 7 678 718 758	778 818 8 798 838	58 898 938 978 1 878 918 958 998	018 1058 1	1098 1138 11	8 1218	1258 1298 1338	1378 1412 14	1400 1540	LBL 61.5	20000000	NO WHEEL	LOADS		
	232 313 333	030 400 470	318 336 356 638	070 710 730	790 030	878 918 958 998	1038 1078	1118 1158	1198 1	238 1278 1318 135	8 1398 1438	14/8 1518			VEHICLE T	READWAY		
															- CREW RES	T FACILITY		
							**											
a. LOAD		M MODEL AND C. TRANSPORTATION CONTROL NO. VEHICLE PACKAGE/SERIAL NO.		ROL NO. d. REMARKS		e. DIMENSIONAL DATA  TOTAL (In inches)			NNED LOAD D	T	· · · · · · · · · · · · · · · · · · ·	TUAL LOAD D	ATA	h. REMARKS				
SEQUENCE	NOMENCLATI	RE/DESCRIPTION	INCREMENT NO.		REMARKS CODE (From col. h.)	OTHER REMARKS	LENGTH		EIGHT	GROSS WEIGHT (Total Pounds)	FUSELAGE STATION	MOMENT (10,000)	GROSS WEIGHT (Total Pounds)	FUSELAGE STATION	MOMENT (10,000)	(For use in col. d.)		
			-													1. OFF CENTER:		
																1A RIGHT 1B LEFT		
																2. CENTER LINE LOAD		
							1									3. SHORING		
																3. SHORING REQUIRED: 3A PARKING 3B ROLLING 3C SLEEPER 3D SPECIAL		
																3C SLEEPER 3D SPECIAL		
																4. MUST BE POSITIONED IN DIRECTION OF ARROW		
																5. SPECIAL HANDLING		
																(DD Form 1387-2)		
																6. HAZARDOUS MATERIAL CERTIFICATION		
	GER SEATS PLAN		13. TOTAL WEIGHT/M	OMENT FROM B	IACK						LOAD CB	*		LOAD CB		(Shippers Declaration for Dangerous Goods)		
NUMBER SEATS	AVG. WEIGHT (Pounds Each)	TOTAL PLANNED WT.	14 7074/0		- 1126	2.0 2.0					STATION			STATION				
			14: TOTALS													7. MAXIMUM FUEL 7A 3/4 TANK 7B 1/2 TANK		
15a. LOAD P	LANNER		DATE CERTIFIED	TYPED/PRIN	TED NAME, (	GRADE, ORGANIZATIOI	N OF LOADE	PLANNER		SIGNATURE	l	<del></del>	L			8. EQUIPMENT DRAINED/PURGED: 8A DRAINED NOT PURGED		
13473			DATE CERTIFIED TYPED/PRINTED NAME, GRADE, ORGANIZATION OF LOADPLAN VALIDATOR SIGNATURE.							SIGNATURE					8B PURGED			
15b. ACTUA	L LOAD PLAN VA	LIDATOR	DATE CERTIFIED	TYPED/PRIN	TED NAME,	GRADE, ORGANIZATIOI	N OF LOADE	PLAN VALIDA	OR	SIGNATURE						9. VENT KIT REQUIRED		

Figure V-6. DD Form 2130-3, C-141B Load Plan (w/Cargo Pallet Positions)

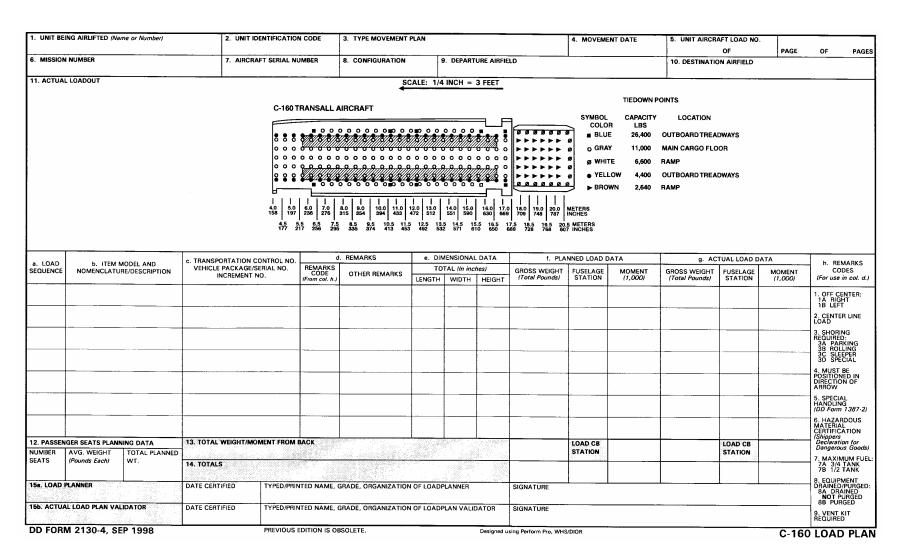


Figure V-7. DD Form 2130-4, C-160 Transall Load Plan (w/Cargo Pallet Positions)

## I. PREPARATION AND USE OF DD FORM 2130-5

- 1. DD Form 2130-5, <u>DC 10-10/30CF Load Plan</u> is for use in load planning cargo to be airlifted by DC 10-10/30CF aircraft during unit moves other than AMC channel missions. Side 1 is for the DC 10-30CF, and Side 2 is for the DC 10-10CF. Use DD Form 2130C, <u>Aircraft Load Plan Continuation</u>, (Figure V-21) for cargo manifesting. Complete in seven copies and distribute as indicated in Paragraph H.4, above.
  - Block 1: UNIT BEING AIRLIFTED. Name or number of unit being airlifted.
  - Block 2: UNIT IDENTIFICATION CODE. Six-character, alphanumeric-unique code assigned to unit being airlifted. Deploying unit may also use ULN in this block.
  - Block 3: TYPE MOVEMENT PLAN. Enter operation or exercise name. Enter the SAAM number for SAAMs. If a contingency, enter plan number and whether inter-theater or intratheater airlift. Enter "CLASSIFIED" if any doubt exists when associating type of movement with detailed unit load information, i.e., if Plan Identification Number is listed.
  - **Caution**: Association of an exercise name, SAAM sequence number, contingency name, or Operation Plan number with other information on this form may cause this form to become classified up to TOP SECRET.
  - Block 4: MOVEMENT DATE. Enter the date of airlift (DDMMMYY). **Note**: All airlift times are specified in Greenwich Mean Time (Zulu time zone).
  - Block 5: UNIT AIRCRAFT LOAD NUMBER. The number identifying the specific load and the total number of loads to be airlifted for a particular unit, e.g., 5 of 47.
  - Block 6: MISSION NUMBER. Assign mission number. (Normally completed by air carrier or mobility force personnel.)
  - Block 7: AIRCRAFT SERIAL NUMBER. Last five digits of the aircraft tail number. (Normally completed by air carrier or mobility force personnel.)
  - Block 8: CONFIGURATION. (Optional entry.) This aircraft has no predetermined configurations. Plain remarks such as "20 seats/10 pallets" may be used.
  - Block 9: DEPARTURE AIRFIELD. Actual geographical name of the departure airfield. If departure is classified, enter "CLASSIFIED".
  - Block 10: DESTINATION AIRFIELD. Actual geographical name of the scheduled arrival airfield. If destination is classified, enter "CLASSIFIED".
  - Block 11: ACTUAL LOADOUT. The aircraft diagram schematic scale is 1/4 inch = 3 feet. Actual position of cargo being airlifted will be shown on the diagram using DOD-approved cargo load planning templates. Use the DD Form 2130C, <u>Aircraft Load Plan Continuation</u>, for documenting load sequence, nomenclature, TCN, and remarks. Contact any of the AMCUs or AMCFs listed in Chapter 303, Paragraph B.2.b.(l).(g) for further guidance.

Block 12: PASSENGERS SEATS PLANNING DATA. Enter number of total seats used in number seats section (In this example, 12 is entered).

12. PASSENGER SEATS PLANNING DATA											
NUMBER AVG. WEIGHT TOTAL											
SEATS	(Pounds Each)	PLANNED WT.									
12	210	2,520									

Also enter average weight used per individual for planning purposes and the total weight of the planned passenger load. This is for use during the planning phase of the movement. To estimate passenger weights, see Figure V-22. The load planner or unit movement officer will furnish the actual number of passengers and the total passenger weight.

Block 13: TOTAL WEIGHT/MOMENT. Enter total planned load weight and moments from reverse side in Block (f), "Gross Weight and Moment" columns. Enter total actual load weight and moments from reverse side in Block (g), "Gross Weight and Moment" columns.

Block 14: TOTALS. Compute the sum of figures in "Sub Totals Gross Weight and Moment" columns both blocks 11(f) and 11(g) on the DD Form 2130C and enter it in Block 14. To obtain load CB station, divide total moment by total gross weight. Example:  $6107 \div 68190 = 896$ .

Block 15(a): LOAD PLANNER. Enter date load plan certified, name, grade, organization, and signature of individual responsible for planning or initiating the cargo load plan. Planning officials must be qualified load planners or graduates of the AMC Affiliation Airlift Planners Course, the United States Army Air Deployment Planning Course; Ft Eustis, VA, United States Marine Corps Expeditionary Warfare Training Group, Pacific, Air Movement Planning Course (K-8A-3558) Naval Air Base, Coronado, CA; 101st Airborne Division Strategic Deployment School Ft Campbell, KY or 82d Airborne Division Air Movement Operation School, Ft Bragg, NC.

Block 15(b): ACTUAL LOAD PLAN VALIDATOR. Enter date load plan validated, name, grade, organization, and signature of individual validating load plan in actual load plan block. Actual load plan certification will not be accomplished until actual load plan is completely filled out and verified. Load plan validator must be an authorized representative of the mobility force or the air crew loadmaster.

**Note**: For air-drop loads, graduates of the Ft. Lee Parachute Riggers Course may certify the load plan.

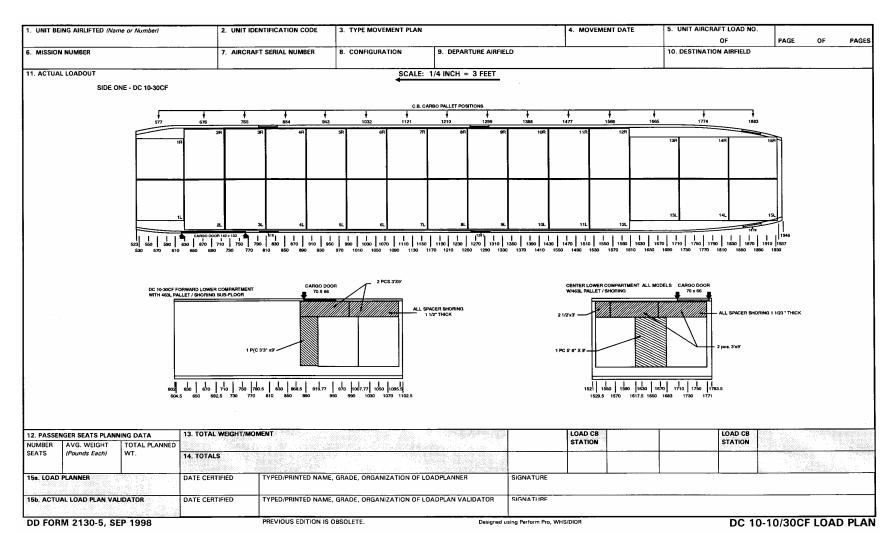


Figure V-8. DD Form 2130-5, DC 10-10/30CF Load Plan (Side 1 w/Cargo Pallet Positions)

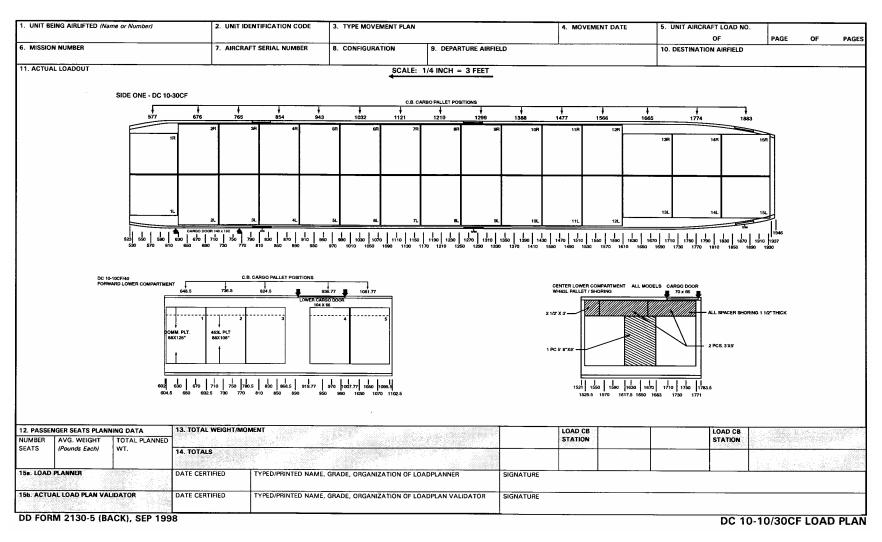


Figure V-8. DD Form 2130-5 (Reverse), DC 10-10/30CF Load Plan (Side 2 w/Cargo Pallet Positions).(Cont'd)

KC-10A PLANNING D	ATA					
Maximum Takeoff Weight:	590,000 lbs					
Normal Operating Weight:	252,000 lbs					
Peacetime Planning ACL:	80,000 lbs					
Wartime Planning ACL*:	148,600 lbs					
NOTE: Maximum payload can only be carried at flight weight of 549 weight of 585,000 lbs. Maximum ACL is 137,600 lbs.	0,000 lbs or less. At maximum 1.8G flight					
CARGO COMPARTMENT						
Length - 1508 inches Width - 218 inches	**** Height - 108 inches **					
CARGO AREA:						
From Fuselage Station 496-2004 (main cargo floor). No lower	lobe cargo capability.					
VEHICLE LOADING: MAXIMUM WEIGHTS: ****						
Station 630-1066:	4,500 lbs per individual axle					
Station 1066-1175:	4,800 lbs per individual axle					
Station 1175-1502:	3,200 lbs per individual axle					
Station 1502-1937:	4,000 lbs per individual axle					
PALLETIZED CARGO LOADING: Maximum allowable using HCU	J-7/E & HCU-15/c Nets					
Pallet positions 1 thru 6 (left and right):	6,500 lbs ***					
Pallet positions 7 thru 11 (left and right):	10,000 lbs ***					
Pallet positions 12 thru 13 (left and right):	6,500 lbs ***					
Height of pallet positions 2 thru 10:	96 inches **					
Height of pallet position 11 and 12:	96 inches **					
PASSENGER LOADING:						
Airline seats (Code A):	8 passengers					
Airline seats (Code B):	10 passengers					
Airline seats (JA/ATT missions) (Code D):	65 passengers					
Airline seats:						
(Increased Accommodation Kit):	69 passengers					
Web passenger seats:	Not Available					
Paratroops:	Not Available					
Litter patients (plus medical crew):	Not Available					
Full sidewall seats only:	Not Available					
MAXIMUM ON OVER-WATER FLIGHTS:	69 passengers					

Figure V-9. KC-10A Planning Data

- 1. \* Maximum payload is computed without regard to cargo density, is limited only by aircraft structural limitations or critical leg fuel (4000 NM), and is shown primarily for information. It includes weight of any passengers carried and should not be used unless cargo density is known to be high and physical characteristics of the cargo would permit full use of compartment space. Flight route segments less than critical leg distances may allow for more or less ACL depending on wind factors. Fuel offload requirements for aerial refueling missions may reduce cargo ACL allowable.
- 2. \*\* Cargo door height limits all cargo to 96 inches above surface of pallet. Cargo compartment curvature restricts normal pallet building techniques.
- 3. \*\*\* Includes weight of cargo, pallet, and nets or other tie-down equipment.
- 4. \*\*\*\* Maximum axle weights are predicated on a minimum separation of 48 inches.
- 5. \*\*\*\* At 100 inches above the floor level, the compartment width is approximately 144 inches. Due to the curvature of the fuselage, the cargo compartment area forward and aft of the constant section diminishes in height and width.
- 6. The KC-10 does NOT have a floor loading capability. All cargo/baggage must be palletized or placed on a pallet subfloor.
- a. Baggage must be palletized and considered as cargo. Hand-carried item must be fit under the seats. Troops will be allowed to hand carry their weapons and helmets. Other items that will not fit under the seats must be palletized, i.e., rucksacks, web belts, crew served weapons, etc.
- b. Until further notice, pallet position 13 will not be offered for user cargo space. Space is required for aircraft ground servicing (crew chief) equipment.
- c. External high reach stairs are required for all passenger loading/downloading. Upon user request, wide-body stair extenders may be brought in with the aircraft to be used with stands that reach 12 feet in height or higher.
- d. Due to limited galley facilities, hot meal service should be limited to not more than 20 passengers. Box meals are recommended for all troop/passenger missions where meals are required.
- e. When submitting an airlift request under Material Handling Support, the request must include a wide-body loader, stair case extended, or wide-body staircase when needed.
  - f. All KC-10s will have 125 straps, 150 chains, and 10 sets of pallet couplers.
- g. Aircraft tow bar is required when aircraft will operate into/out of airfields where like tow bars are not available.

Figure V-9. KC-10A Planning Data (Cont'd)

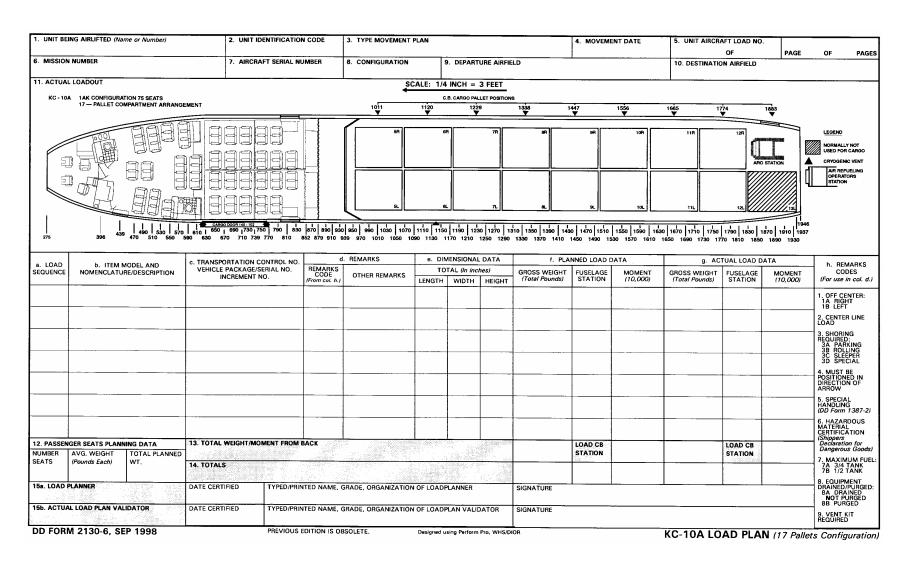


Figure V-10. DD Form 2130-6, KC-10A Load Plan (w/17 Cargo Pallet Positions)

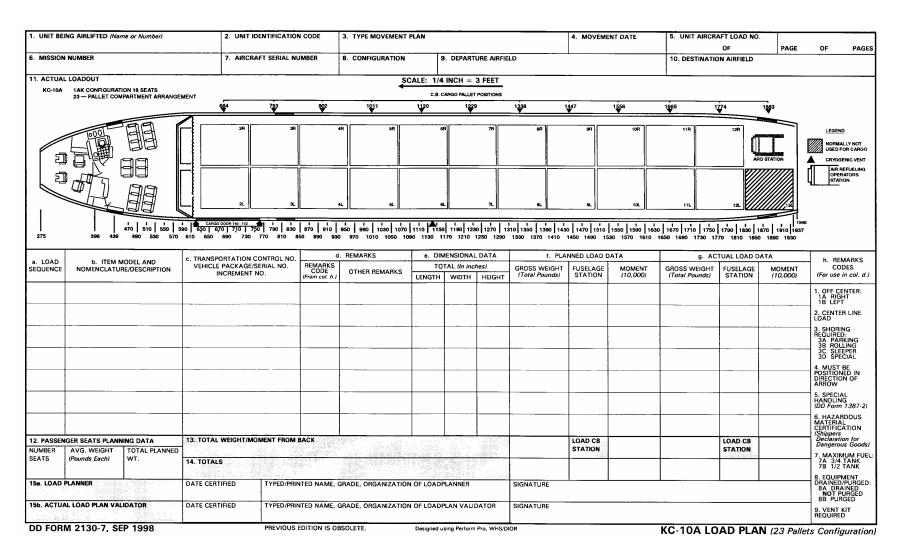


Figure V-11. DD Form 2130-7, KC10A Load Plan (w/23 Cargo Pallet Positions)

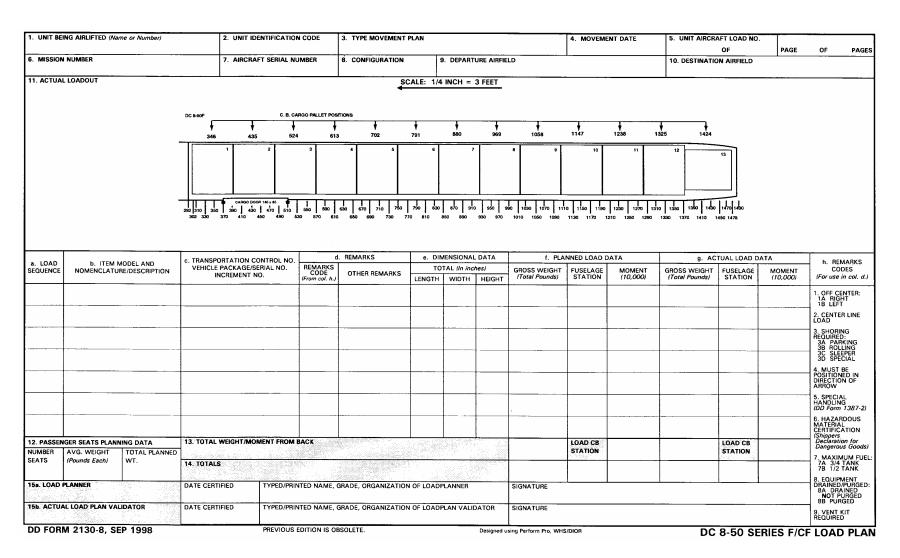


Figure V-12. DD Form 2130-8, DC8-50 Series F/CF Load Plan (w/Cargo Pallet Positions)

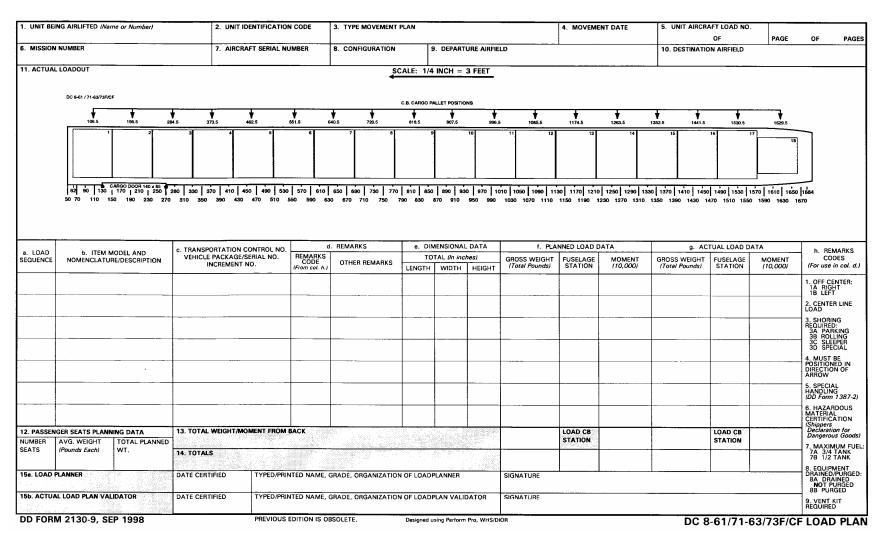


Figure V-13. DD Form 2130-9, DC-8-61/71-63/73F/CF Load Plan (w/Cargo Pallet Positions)

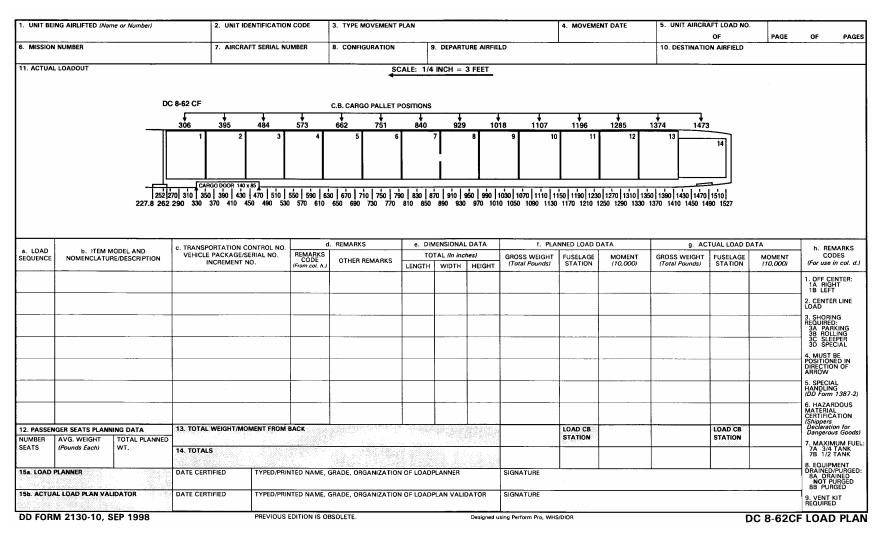


Figure V-14. DD Form 2130-10, DC8-62CF Load Plan (w/Cargo Pallet Positions)

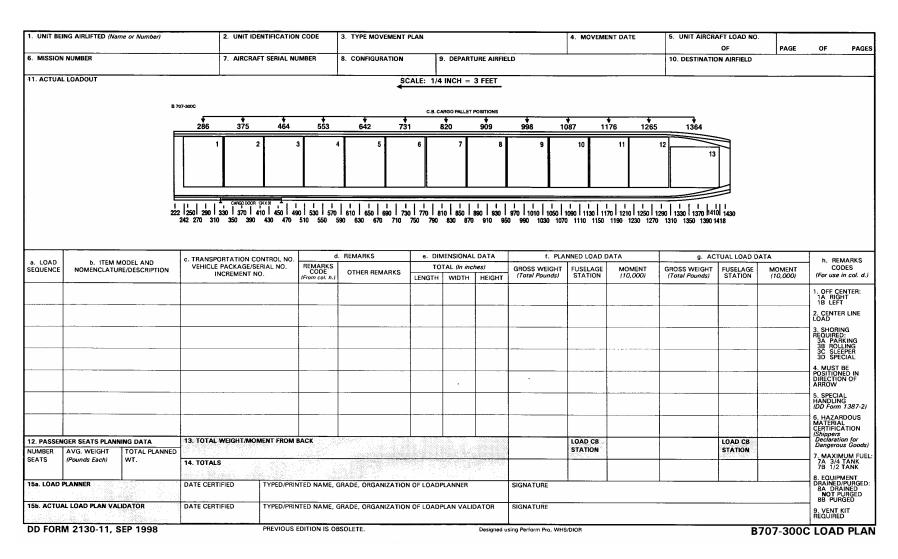


Figure V-15. DD Form 2130-11, B707-300C Load Plan(w/Cargo Pallet Positions)

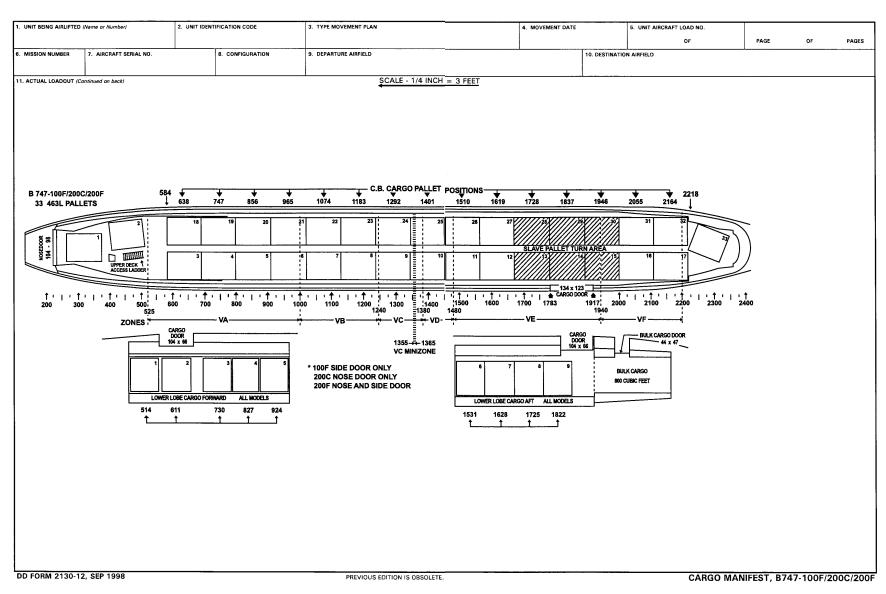


Figure V-16. DD Form 2130-12, Load Plan B747-100F/200C/200F

	C-17A PLANNING I	OATA								
Maxi	Maximum Takeoff Weight:									
	al Operating Weight:	585,000 lbs 276,000 lbs								
	etime Planning ACL:	90,000 lbs								
CARGO COMPARTMENT:		,								
Length - 1056 inches	Width - 216 inches	Height - 148 inches**								
CARGO AREA:		-								
From Fuselage Station 347-1165 (ma	in cargo floor) and from Statio	on 1165-1403 (aircraft ramp).								
VEHICLE LOADING: Maximum w	eights.									
Station 347-57	8 and Station 1073-1165	27,000 lbs per individual axle								
Station 578-10	73	36,000 lbs per individual axle								
	(Station 1165-1403	27,000 lbs per individual axle								
PALLETIZED CARGO LOADING:	Maximum allowables using H	ICU-7/E & HCU-15/C nets.								
Logistics rail s	ystem:									
	ns 1L-9L and 1R-9R):	10,355 ***								
Aerial delivery										
(Pallet position		10,355 ***								
Height of all p	allet positions:	96 inches								
PASSENGER LOADING:										
Permanently in		54 passengers								
Onboard cente		48 passengers								
Paratroops (ma		102 paratroops								
Onboard litter		12 litters								
Additional litte	1 5	36 passengers								
MAXIMUM ON OVER-WATER FI	LIGHTS:	102 passengers								
NOTES:										

- 1. \* The maximum payload is computed without regard to cargo density. It is limited only by aircraft structural limitations or critical leg fuel (2500NM) and is shown primarily for information. It includes weight on any passengers carried. It should not be used unless cargo density is known to be high and physical characteristics of cargo would permit full use of compartment space. Flight route segments less than critical leg distances may allow for more or less ACL, depending on wind factors. If tanker support can be provided with aerial refueling qualified aircrews, the C-17 can airlift maximum payload over any critical leg.
- 2. \*\* Aft of fuselage Station 937 cargo compartment height is 162 inches. Cargo must be six inches from sides and top of aircraft.
- 3. \*\*\* Includes weight of cargo, pallet, nets.
- 4. Any passenger load requires a minimum of one loadmaster in the cargo compartment; two if more than 40 passengers are carried.
- 5. Passengers will NOT occupy a seat closer than 30 inches from strapped or netted cargo.
- 6. Width of cargo affects use of sidewall seats. Cargo/vehicle widths less than 157 inches, seats will be available on both sides on the cargo, cargo/vehicle widths of 157 to 192 inches, seats will be available on one side of the aircraft only. Cargo/vehicle widths 193 inches and greater, no seats will be available beside the cargo.

Figure V-17. C-17 Planning Data

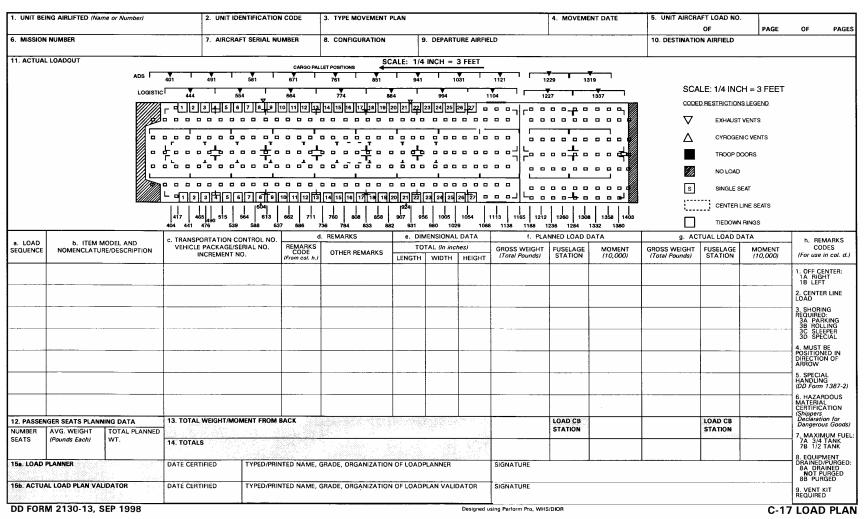


Figure V-18. DD Form 2130-13, C-17 Load Plan (w/Cargo Pallet Positions)

KC-135 PLANNING DATA												
Maximum Takeoff Weight:	322,500 lbs											
Normal Operating Weight:	122,500 lbs											
Peacetime Planning ACL:	30,000lbs											
CARGO COMPARTMENT:												
Length - 840 inches Width - 129 inch	nes Height - 84 inches											
CARGO AREA:												
From Fuselage Station 440-1120 (main cargo floo	r). No lower lobe cargo capability.											
PALLETIZED CARGO LOADING:	Maximum allowable using HCU-7/E & HCU-15/C nets.											
Pallet positions 1-6:	6,000 lbs											
Height of pallet positions 1-6:	65 inches											
PASSENGER LOADING:												
Airline seats:	56 passengers (when equipped)											
Web passenger seats:	57 passengers (4 available with 6 pallets)											
Litter patients (plus medical crew):	8 litters, 1 floor loaded											
MAXIMUM ON OVER-WATER FLIGHTS:	57 passengers											

Figure V-19. KC-135 Planning Data

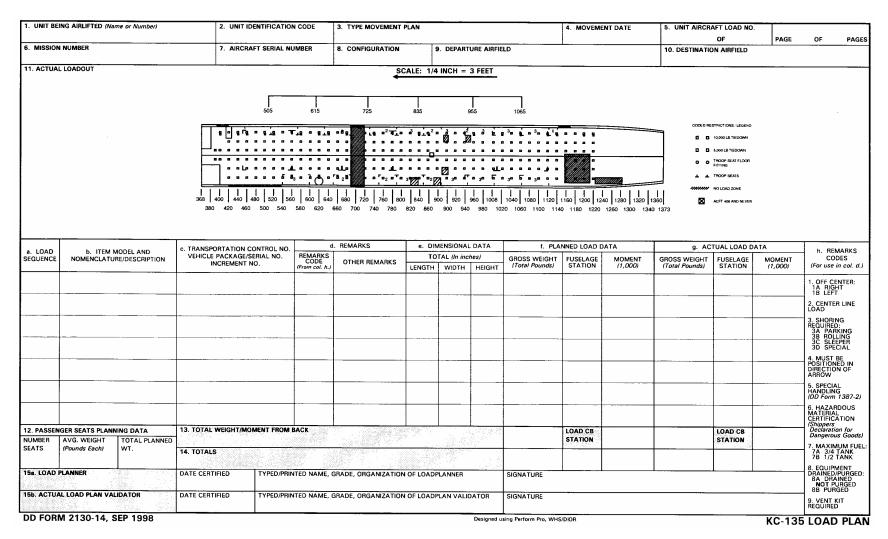


Figure V-20. Form 2130-14, KC-135 Load Plan (w/Cargo Pallet Positions)

1. UNIT BEH	NG AIRLIFTED (Name or Number)		2. UNIT IDENTIFICATION	CODE	3. TYPE MOVEMENT I	PLAN				4. MOVEME	NT DATE	5. UNIT AIRCRA	FT LOAD NO.		
												OF	PAGE	OF PAGES	
6. MISSION NUMBER 7. AIRCRAFT SERIAL NUMBER			8. CONFIGURATION 9. DEPARTURE AIRFIELD							10. DESTINATION AIRFIELD					
11. ACTUAL	LOADOUT				-										
a. LOAD	b. ITEM MODEL AND		ORTATION CONTROL NO.		I. REMARKS	1	MENSIONAL			NNED LOAD D		<del>}</del>	TUAL LOAD DA	ATA	h. REMARKS
SEQUENCE	NOMENCLATURE/DESCRIPTION		PACKAGE/SERIAL NO. NCREMENT NO.	REMARKS CODE (From col. h.)	OTHER REMARKS	LENGTH	TAL (In inc	hes) HEIGHT	GROSS WEIGHT (Total Pounds)	FUSELAGE STATION	MOMENT (Simplified)	GROSS WEIGHT (Total Pounds)	FUSELAGE STATION	MOMENT (Simplified)	(For use in col. d.)
								İ							
		ļ		ļ		ļ		ļ				1			1. OFF CENTER:
															1A RIGHT 1B LEFT
															2. CENTER LINE LOAD
															3. SHORING
		<del> </del>		-		<del> </del>		<u> </u>		ļ		ļ			REQUIRED: 3A PARKING
															3B ROLLING 3C SLEEPER
															3D SPECIAL
		ļ			_	ļ							1		4. MUST BE POSITIONED IN
															DIRECTION OF ARROW
															5. SPECIAL
											-				HANDLING (DD Form 1387-2)
		<del> </del>		1		<b>-</b>				<u> </u>			-		6. HAZARDOUS MATERIAL
															CERTIFICATION (Shippers
			- 49												Declaration for Dangerous Goods)
															7. MAXIMUM FUEL:
									-				1		7A 3/4 TANK 7B 1/2 TANK
								ļ		ļ					8. EQUIPMENT DRAINED/PURGED:
					-					1					8A DRAINED NOT PURGED
				<del>                                     </del>								-	-		8B PURGED
		<u> </u>				ļ		<b>_</b>					·		9. VENT KIT REQUIRED
															OTHER CONDITIONS:
															IDENTIFY IN COL. D(2)
			-												1
11i. SUBTO	TALS (To be included with Page 1, Item	14, Totals)		•	<b></b>						O	0		(	,
DD FORM	1 2130C, SEP 1998 (EG)		PREVIOUS E	EDITION IS OB	SOLETE.	1	14 (2000)	aweroceu-secto	<b>!</b>	L. Company	t .	AIRCRAE	TIOAD	PLAN CO	NTINUATION

Figure V-21. DD Form 2130C, Aircraft Load Plan Continuation Sheet

### STANDARD PLANNING WEIGHTS

- General. Actual weights will always be used when manifesting passengers on commercial aircraft. Actual weights should be used for DOD organic aircraft. Use of standard planning weights is authorized on DOD organic aircraft for contingencies or wartime situations only where time does not allow for obtaining actual weights.
- Standard Planning Weights. The following will be used as planning weights for combat equipped troops being deployed on DOD organic aircraft:
  - Passengers with web gear and weapon or with carry-on baggage:
    - Combat: 210 lbs (1) (2) Training: 210 lbs
  - Passengers with web gear, weapon, and rucksack or combat equipment/tools:
    - Combat: 300 lbs (1)
    - Rucksacks: Training 40 lbs; combat 80 lbs
  - Passengers with duffel bag, web gear, weapon, and rucksack or with duffel bag and combat equipment or tools:
    - Training: 350 lbs. (1)
    - Combat: 400 lbs (2)
  - Parachutist with web gear, weapon, and rucksack:
    - Training: 300 lbs (1)
  - (2) Combat: 350 lbs
  - Parachutists with no weapon or equipment: 220 lbs.

Only under contingency or wartime situations when time does not permit obtaining actual weights will standard planning weights be used in lieu of actual weights for manifesting passengers or cargo on military aircraft.

If scales are not available, interrogated weights of individuals can be used.

- The following weights will be used for planning the deployment of non-combat equipped troops on DOD aircraft:
  - Passenger with no bag: 175 lbs.
  - Passenger with hand-carried bag: 195 lbs. b.
  - Additional planning weights:
    - Hand-carried weapon: 10 lbs.
    - Mobility bags: 25 lbs.
    - (3) Mobility pack (mask, web gear, and helmet): 20 lbs.
    - (4) Tool Box: 55 lbs.
    - Checked baggage: 70 lbs.
- The following planning weights and procedures apply to individuals transported on AMC-chartered commercial aircraft:
  - Non-combatant equipped troops: 175 lbs.
  - Combat-equipped troops with carry-on bag only: 210 lbs.
  - Combat-equipped troops with web gear and weapon: 210 lbs.
  - Combat-equipped troops with web gear, weapon, and carry-on baggage: 230 lbs.
    - These weights are for planning purposes only. NO standard body weights will be used for troops transported on commercial aircraft. Use actual scaled weights of individuals with uniform, boots, helmet, weapon, web gear, and hand-carried bag.
    - If scales are not available, interrogated weights of individuals can be used. After asking each individual their weight, use the following additive item weights as necessary to determine total weight of the traveler:
      - Boots: 5 lbs. (b) Helmet: 5 lbs. (c) Uniform: 5 lbs. Web gear: 12 lbs. (d) Weapon: 10 lbs. (e)

(f)

Hand-carried bag: 20 lbs. All items transported in the cargo compartment of a commercial aircraft must be weighed.

Figure V-22. Standard Planning Weights

## J. PREPARATION AND USE OF DD FORM 2131, PASSENGER MANIFEST

1. Use the DD Form 2131, Passenger Manifest, Figure V-23, to list the names of the deploying personnel. Units may use a typed list in place of the DD Form 2131 if the form is not available. However, the typed list must include all the information required on the DD Form 2131. The troop commander signs the anti-hijacking statement (shown below) on the passenger manifest, regardless of the form used.

"I certify that no unauthorized weapons/ammunition/explosive devices, or other prohibited items are in the possession of those personnel for whom I am the designated manifesting representative or troop commander, and that their authorized weapons have been cleared."

## 2. Prepare DD Form 2131 as follows:

Block 1: MISSION NUMBER. Enter the Air Force mission number, Joint Airborne/Air Transportability Training (JA/ATT) mission number, SAAM mission number, exercise mission number, or other identifying mission number.

Block 2: AIRCRAFT/VEHICLE/VESSEL NO. Enter the 5-digit tail number of the aircraft flying the mission or identifying number and name of the vehicle/vessel transporting troops.

Block 3: POINT/POE. Use actual name of airfield or point of departure, unless classified. If classified, write "Classified".

Block 4: DESTINATION/POD. Use actual name of airfield or point of destination, unless destination is classified. If classified, write "Classified".

Block 5a: LINE NO. Consecutive numbering of passengers.

Block 5b: GRADE. Military/DOD civilian passenger grade, e.g., 0-3, E-4, W-2, GS-11.

Block 5c: NAME. Last name and initials of passenger.

Block 5d: SSN. Enter Social Security Number of passenger.

Block 5e: CHECKED BAGGAGE. Actual pieces of baggage and total weight.

Block 5f: PAX WEIGHT. Actual weight of passenger. (See Figure V-22 for additional guidance.)

Block 5g: REMARKS. Indicate planeload commander, normally the senior ranking passenger. If passenger is the driver or passenger of a vehicle manifested aboard the same aircraft, indicate unit and vehicle bumper number.

Block 6a: DATE. Actual date form is completed.

Block 6b: PRINTED NAME. Enter the name of the individual that signs this form certifying that an anti-hijacking inspection has been conducted. The troop commander normally does this.

Block 6c: GRADE. Enter grade of the individual listed in Block 6b.

Block 6d: SIGNATURE. Signature of person indicated in Block 6b.

PASSENGER MANIFEST												
1. MISSIO	N NUMBER	2. AIRCRAFT/VEHICLE/VESSEL NO.			3. POINT/PO	DE	4. DESTINATION/POD					
5. LINE NO.	GRADE b.	NAME c.			ECKED GAGE	PAX WEIGH	T REMARKS g.					
a.				PIECES WEIGHT		f.						
		TOTAL FROM FRONT										
		TOTAL FROM										
	TOTALS						TOTAL WEIGHT PASSENGERS AND ALL BAGGAGE					
POSSESS	SION OF THO		HOM I AM THE DESIG				ER PROHIBITED ITEMS ARE IN THE SENTATIVE OR TROOP COMMANDER, AND					
a. DATE (Y	YYYYMMDD)	b. PRINTED NAME (Last, first, Middle Initial)		C. GRADE			D. SIGNATURE					

Figure V-23. DD Form 2131, Passenger Manifest

ITEM NOMENCLATURE (1)	NET QUA	NET QUANTITY PER PACKAGE (2)			TRANSPORTATION CONTROL NO. (3)				
	CONSIGN	SIGNMENT GROSS WEIGHT (4)			DESTINATION (5)				
SUPPLEMENTAL INFORMATION (6)					LOAD ST	ORA	AGE GROUP		
							FLASH POINT		
This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation accord to the applicable regulations of the Dept of Transportation. THIS IS A MILITARY SHIPMENT! (Complete applicable blocks below)									
This shipment is within the limitations prescribed for PASSENG AIRCRAFT/CARGO AIRCRAFT ONLY (Delete non-applicable)		ICAO/IATA/IMCO REGULATIONS							
			PA	PARAGRAPH		EXEMPTION			
		49 CFR		173.7(a)			DOT-E 7573		
ADDRESS OF SHIPPER		TYPED NAME, SIGNATURE AND DATE							
DD FORM 1387-2, JUN 86 Previous editio	E. Form Approved/OMB No. 0704-0188								

SPECIAL HANDLING DATA/CERTIFICATION Figure V-24. DD Form 1387-2, Special Handling Data/Certification

TRANSPORTATION CONTROL NUMBER

DESTINATION

HANDLING INSTRUCTIONS

NOMENCLATURE OF ITEM

SPECIAL HANDLING DATA/
CERTIFICATION
CONTINUATION SHEET

Figure V-24. DD Form 1387-2, Special Handling Data/Certification (Cont'd)

Previous editions are obsolete.

**DD FORM 1387-2C, JUN 86 (EG)** 

Form Approved. OMB No. 0704-0188

# Instructions for Completing the DD Form 1387-2 Classified Shipments

If the material shipped is classified, the following procedures apply:

- a. If none of the information entered in the Blocks on the form is classified, four copies of the form will be completed.
- b. If the information to be entered on the form is classified, then prepare and distribute the form as follows. One copy is completed in detail, including essential classified data. This copy will be signed. The completed and signed form will be forwarded to the air terminal IAW security regulations and instructions and will be attached to the air manifest. Three additional copies of the form must be prepared reflecting "See Aircraft Commander's copy" and "Protective Service Required" in Block 6. Blocks 3, 4, and 5 will also be completed. The remainder of the form will be left blank. The form will be placed in a waterproof envelope and attached to the number one container of the shipment unit.
- c. If any of the data entered on the DD Form 1387-2 is classified when the form is attached to the air manifest, then the air manifest takes the same degree of classification. The air manifest remains classified until the classified form is detached and handled IAW security regulations and instructions.
- d. If the material shipped is classified, the following procedure applies. All four copies of the form will reflect the degree of TPS protection. (Notes 1 and 2.)

Note 1. Shipments of classified will include one or more types of sensitive cargo. Block 6 of the DD Form 1387-2 will include one or more of the required transportation protective service categories as required by the DTR, for example:

Greater Security Service (GSS)

Rail Armed Guard Surveillance Service (ARG)

Rail Inspection Service (RIS)

Constant Surveillance Service (CIS)

Dual Driver Protective Service (DDP)

Motor Surveillance Service (MVS)

Protective Security Service (PSS)

Security Escort Vehicle Service (SEV)

Signature and Tally Record Service (675)

Satellite Motor Surveillance Service (SNS)

Military Guard Personnel (MGP)

Note 2. For shipments requiring other special services while in transit, enter the instructions in Block 6, for example:

Protect From Freezing Protect From Heat

Air Ride Equipment Required

Figure V-25. Instructions for Completing DD Form 1387-2

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